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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/334,049	06/15/1999	ARIEL BEN-PORATH	3656/PDC	4880
32588	7590	05/24/2004	EXAMINER	
APPLIED MATERIALS, INC. 2881 SCOTT BLVD. M/S 2061 SANTA CLARA, CA 95050			BALI, VIKKRAM	
			ART UNIT	PAPER NUMBER
			2623	

DATE MAILED: 05/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/334,049

Applicant(s)

BEN-PORATH, ARIEL

Examiner

Vikram Bali

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

In response to the response filed on 3/05/2004, the action follows:

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3-5 as best understood are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuno (US 6047083).

With respect to claims 1, 3-5 the rejections are maintained and incorporated by references as set forth in prior office action (paper # 12).

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuno (US 6047083) in view of Automatic defect classification for semiconductor manufacturing, by Paul et al, Machine Vision and Application, 1997, pp 201-213.

With respect to claim 2 the rejections are maintained and incorporated by references as set forth in prior office action (paper # 12).

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4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuno (US 6047083) in view of Applicants prior admitted art.

With respect to claim 6 the rejections are maintained and incorporated by references as set forth in prior office action (paper # 12).

5. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuno (US 6047083) in view of Nakamura et al (US 5172421).

With respect to claims 7-9 the rejections are maintained and incorporated by references as set forth in prior office action (paper # 12).

Claims 10-18 and 22-30 are rejected as claims 1-9 as claims 10-18 and 22-30 are claiming similar subject matter as claimed in claims 1-9.

Claims 19, 20 and 21 are rejected as claims 1, 8 and 9 as claims 19, 20 and 21 are claiming similar subject matter as claimed in claims 1, 8 and 9.

### ***Response to Arguments***

6. Applicant's arguments filed 3/5/2004 have been fully considered but they are not persuasive. Applicant argues that the reference fails to disclose a rule based core classifier and a specific adaptive classifier associated with only a small number of the core classes that is a classic classifier trained by the user with a set of sample defect

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images, (see page 2, last 4 lines). Examiner disagrees and would like to point out that the limitations are given their broadest reasonable interpretations. In this case, reference Mizuno discloses imaging the surface to form a defect image and classifying the defect into core classes using a rule-based core classifier, (see col. 3, lines 39-41); and a specific adaptive classifier associated with the one core class, (see col. 3, lines 42-44). Even though he fails to specifically disclose: the specific adaptive classifier being a classic classifier trained by the user with a set of sample defect images and associated with less than the predetermined number of core classes; as claimed. He does states in the col. 5, lines 15-20, the sub classification, i.e. further classification of the defects, is done using a pattern design rule which is recorded in to the apparatus prior to the inspection, i.e. in the training phase and that is done by the user interface, i.e. the user's involvement in training the classifier and this classifier is read as the "classic classifier" as claimed.

### ***Conclusion***

**7. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vikkram Bali whose telephone number is 703.305.4510. The examiner can normally be reached on 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703.308.6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vikkram Bali  
Primary Examiner  
Art Unit 2623



vb  
May 19, 2004